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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,058	08/30/2000	Shoutarou Yoda	107156-00019	1169

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EXAMINER

NOLAN, DANIEL A

ART UNIT PAPER NUMBER

2655

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,058

Applicant(s)

YODA, SHOUTAROU

Examiner

Daniel A. Nolan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims:

Claims rejected are 1-2 (and 5-6 if dependent), 7-8 (and 11-12 if dependent), 13-14 (and 17-18 if dependent).

Continuation of Disposition of Claims:

Claims objected to are 3-4 (and 5-6 as dependent), 9-10 (and 11-12 as dependent) and 15-16 (and 17-18 as dependent).

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DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Note that as of October 1, 2002 a new **Art Unit 2655** was established that includes this application, and that this new AU number should be used in all future correspondence.

Response to Amendment

3. The response filed 02 October 2002 was applied to the following effect:
 - The title was changed as indicated and the objection is withdrawn as satisfied.
 - The references to the drawings were changed in the specification and the objections are removed as having been satisfied.
 - The specification was further changed as indicated and the objection is withdrawn as being satisfied.
 - The claims were changed as indicated and the objections are withdrawn as satisfied.

Response to Arguments

4. Applicant's arguments filed 02 October 2002 have been fully considered but they are not entirely persuasive.

- The argument with regard to claims 3, 9 and 15 is compelling. The rejection was withdrawn, the claims examined in light of the new understanding with the resulting indication of allowable subject matter.
- Regarding the issue that *the process of isolating noise from speech is a well-known part of a speech recognition engine* is well-known in the art of speech signal processing, examples that read on the feature are to be found in the prior art of reference cited as relevant in the previous action, as follows:
 - o Fedele (U.S. Patent 4,627,091), as in the abstract, lines 10-11.
 - o Bowen et al (U.S. Patent 5,625,697), as in column 9 line 1.
 - o Lee et al (U.S. Patent 4,449,238) from column 1 line 48 to column 2 line 9.
 - o Furukawa (Japanese Patent 02-077799), as in the Purpose section of the Abstract, line 3.
 - o Julstrom (U.S. Patent 5,297,210), as in column 6 lines 26-27.
 - o Hunt (U.S. Patent 5,319,736), as in item 30 figure 3.
 - o Peters et al (U.S. Patent 6,134,524), as in the preamble of claim 1.

These references are recited in support of the maintained assertion that it would have been obvious to a person of ordinary skill in speech signal processing at the time of the invention to include as a prerequisite process the and well-known

operation of discarding extraneous noise from received signals containing speech.

- Regarding the allegation that Everhart would *teach away* from a voice-switching means by not mentioning the feature in the alternative, the Examiner maintains that Everhart reads directly on such an alternative described as obvious by the Examiner (in column 2 lines 21-28). In support of this, subsequent reference from the same source (Everhart et al, U.S. Patent 6,240,347) was included with the relevant prior art to illustrate that such a transition would be expected.

5. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *push-to-talk control*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

6. The argument that Everhart in view of Fedele fail to address the issues of selection on the basis of *speech level* and *time* happens not to be the case, as both issues were addressed in the rejection of the claim. In response to the applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make the proposed combination

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of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975).

However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what motivates the disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosure. *In re Bozec*, 163 USPQ 545 (CCPA) 1969. In this case, it would have been obvious for a person having ordinary skill in the pertinent art, at the time the invention was made, to use the method of Fedele in the method/system of Everhart because Fedele teaches one of ordinary skill in the art the benefit of using his invention to select the active speaker.

Claim Objections

7. Claims 3, 8-9 and 14-15 are objected to because of the following informalities:
- The remedy applied to claim 2 should be applied to these claims to achieve the same benefits accorded that claim by the change.
 - The phrase *determines that of* (claim 3 line 21 and claim 9 line 12) should read "selects".
 - The word *determined* (claim 8 line 6 and claim 14 line 26) should be "selected".
 - The phrase *determining that of* (claim 15 line 5) should read, "selecting".
 - The Examiner is proceeding with the understanding that the claim would read as above.

Claim Rejections - 35 USC § 103

Everhart

8. Claims 1, 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everhart (U.S. Patent 6,230,138).

9. Regarding claims 1, 7 and 13; Everhart discloses:

- *Speech recognition having a plurality of voice pickup means for picking up uttered voices (42-44, figure 1) and*
- *Speech recognition means for performing speech recognition based on speech signal determined by said determination means (90-92, figure 5).*
- With regard to the feature of determining whether the speech signal is suitable for processing, the process of isolating noise from speech is a well-known part of a speech recognition engine making it obvious for a person of ordinary skill in the art of speech signal processing to include *determination means for determining a speech signal suitable for speech recognition from speech signals output from said plurality of voice pickup means* to avoid errors produced by mis-recognizing noise as voice.

Everhart & Fedele

10. Claims 2, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Everhart in view of Fedele (U.S. Patent 4,627,091).

11. Regarding claim 2 as understood by the Examiner and claims 8 and 14; the claims are set forth with the same limits as claims 1, 7 and 13, respectively.

- While Everhart processes *speech signals output from said plurality of voice pickup means* (ibid.) for which *speech discrimination* is requisite (78 in figure 4), he does not disclose any specific component dedicated to that function for the feature of processing.
- Fedele teaches the well-known feature that a signal with a *speech level equal to or higher than a predetermined speech level* (threshold or trigger, column 1 lines 27-32 & column 3 line 33) *and continues over a predetermined period of time is determined as said speech signal suitable for speech recognition* (illustrated by figure 1).
- It would have been obvious for Everhart to employ the well-known criteria disclosed by Fedele to limit processing to actual voice and therefore avoid excessive attempts to resolve mis-recognized commands triggered from background noise anomalies.

12. With regard to claim 5 (as depending on claims 1 or 2), claim 11 (as depending on claims 7 or 8) and claim 17 (as depending on claims 13 or 14); the claims are set forth with the same limits as claims 1-2, 7-8 and 13-14, respectively. All the prior art of record contain a discrimination function that *treats those of said speech signals which are other than said speech signal suitable for speech recognition as noise signals*, as:

- Everhart (column 5 lines 40-54)

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- Bowen (column 8 line 66 to column 9 line 1)
- Fedele would simply disregard non-speech (column 3 lines 28-37) with the well-known shared objective of all references being to differentiate between commands and noise.

13. With regard to claim 6 (as depending on claims 1 or 2), claim 12 (as depending on claims 7 or 8) and claim 18 (as depending on claims 13 or 14); the claims are set forth with the same limits as claims 1-2, 7-8 and 13-14, respectively. The feature defining that the unsuitability *of other speech signals (than said speech signal suitable for speech recognition, that speech signal) whose average S/N value and average voice power become minimum is treated as a noise signal by said determination means* is well-known in the art of speech signal processing as taught by Fedele (column 2 lines 13-18) which would have made it obvious to Everhart to incorporate the teachings of Fedele at the time of the invention to identify and process levels as noise so as to provide continuity for complex command sequences.

Allowable Subject Matter

14. Claims 3-4, 9-10 and 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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15. Claims 5-6 (as they depend from claims 3 or 4), claims 11-12 (as they depend from claims 7 or 8) and claims 17-18 (as they depend from claims 5 or 16) are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter:

- Selection of a dominant microphone of an array by comparative means would be done were Everhart to employ the means of the closest prior art, of Bowen (U.S. Patent 5,561,737).
- With regard to claims 3, 9 and 15 as understood by the Examiner, the featured means of *acquiring an average S/N value and average voice power of each of said speech signals output to **select** [determine that of] said speech signal whose average S/N value and average voice power are greater than respective predetermined threshold values* is neither anticipated nor was it found in obvious combination in the prior art of record.
- Claims 4, 10 and 16 depend on claims that have been found to be allowable and so are they allowable as a consequence.
- Claims 5-6 (when depending on claims 3 or 4), claims 11-12 (when depending on claims 9 or 10) and claims 17-18 (when depending on claims 15 or 16) would

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under those conditions all depend on claims that have been found allowable and so would they themselves allowable under the circumstances.

17. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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19. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To, can be reached at (703) 305-4827.

The fax phone number for Technology Center 2600 is (703) 872-9314. Label informal and draft communications as "DRAFT" or "PROPOSED", & designate formal communications as "EXPEDITED PROCEDURE".

Formal response to this action may be faxed according to the above instructions,

or mailed to: Box AF
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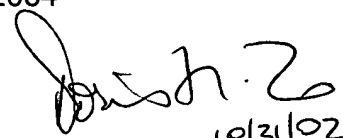
or hand-delivered to: Crystal Park 2,
 2121 Crystal Drive, Arlington, VA,
 Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 Customer Service Office at telephone number (703) 306-0377.

dan

October 31, 2002

Daniel A. Nolan
Examiner
Art Unit 2654


DORIS H. TO 10/31/02
PRIMARY EXAMINER